

## Vascular Plants of Williamson County

*Sorghum bicolor* subsp. *bicolor* – SORGHUM, MILO [Poaceae]

*Sorghum bicolor* (L.) Moench subsp. *bicolor*, SORGHUM, MILO. Annual, robust, fibrous-rooted, typically 1-stemmed at base and with 0–several lateral branches (or many-stemmed at base via tillering), erect, in range 50–130 cm tall; shoots with basal leaves and ascending to spreading cauline leaves, when large resembling maize (*Zea*); adventitious roots numerous at nodes, thick. **Stems (culms):** cylindric, tough, internodes in range to 15 mm diameter, white-waxy on exposed surfaces, puberulent at nodes; solid with core soft and white, in range often glutinous. **Leaves:** alternate distichous, simple with sheath; sheath > internode, open but with overlapping margins at base, ± rounded on back with pronounced ridge (lower leaves) or a slight ridge (upper leaves) descending from blade midrib, striped with numerous parallel veins, densely appressed-pubescent at node, without lobes (auricles) at top; ligule membranous to leathery (coriaceous), truncate to obtuse and short-ciliate, 0.5–4 mm long, pale green aging brownish, glabrous or with appressed straight hairs on hidden surface, glabrous on exposed surface; collar wavy or curved on margin, upper surface sericeous; blade narrowly lanceolate to narrowly oblong-lanceolate, 150–750+ × 12–65 mm, the widest at or below midpoint, flat or folded upward from midrib, minutely serrate and minutely scabrous on margins and often wavy, conspicuously parallel-veined with a well-developed midrib, the midrib flat or concave and pale green on upper surface and convex and green on lower surface, smooth and glabrous except stiff-hairy near ligule and at base of midrib. **Inflorescence:** spikelets, in terminal panicle, panicle in range fusiform in outline, 90–320 × 15–30 mm, principal lateral branches pseudowhorled along erect rachis, branches ascending to erect, ± stiff, straight or wavy (sinuous), usually each branch forking alternately to form an array of several ultimate branchlets, sometimes branching 1–2 times before producing ultimate branchlets; ultimate branchlet racemelike with 2–4 sets of spikelets, a lateral set consisting of 2 spikelets (1 sessile and 1 stalked), the terminal set of 3 spikelets (1 sessile and 2 stalked), sometimes with abortive spikelets in the basal portion; axes ± stiff, angled and strongly ridged, striped, sericeous to scabrous along principal edges especially above forks; axis of stalked spikelet 0.3–1.2 mm long, ± flattened and appressed to sessile spikelet, with spreading hairs 0.5–1 mm long; ultimate branchlets in range not breaking below sessile spikelet. **Sterile spikelet (stalked):** sterile and reduced (rarely 1 spikelet staminate), the lower one consisting of a membranous scale, the upper one consisting of a membranous lemma and usually a membranous palea; **glumes** 2, unequal, lanceolate, membranous, tawny yellow at base intensifying to light green above, conspicuously green-veined, ciliate on infolded margins, pilose with ascending hairs; lower glume 2.8–3.6 × 0.8–1.5 mm, 7–9(–11)-veined, clasping and enclosing upper glume, midvein typically short-scabrous, folded margins membranous and long-ciliate, glabrate and shiny at convex base; upper glume 2.8–3.3 × 0.7–1.1 mm, whitish between green veins, 5–7-veined. **Fertile spikelet (sessile):** with 2 florets, lower floret sterile, upper floret bisexual; **glumes** 2, unequal, hard-leathery, becoming shiny black in fruit with veins conspicuous at tip; lower glume ovate to elliptic, 3.5–4.8 × 2.1–3 mm, margins incurved and clasping upper glume, mostly pale yellowish tan but greenish near tip, pilose-hirsute with ascending hairs, glabrate on ± glossy, smooth, convex central area, membranous at acute tip and on lateral margins near

tip, to 9-veined (visible on inner surface, obscure on outer side except near tip); upper glume lanceolate, 3.8–4.8 × 1.2–2.8 mm, pale yellow to whitish, infolded and clasping florets, membranous and pilose-hirsute with long ascending hairs on margins, 2-toothed and membranous at tip, the tip enveloping shaft of lemma awn (if awn present); scale of sterile floret linear to oblong, 3.5–3.8 × 1.5–1.8 mm, membranous, 2-veined, inwardly folded at margins, 2-toothed at tip, densely pilose on margins; **lemma** of fertile floret awned or not, ovate to triangular, 2.2–3 × 1.8–2 mm, 2-toothed at tip, membranous, pilose-ciliate, the awn 6–8 mm long, sharply bent at 1 or 2 places, readily deciduous, with lower portion twisted, brownish except whitish at lemma, with terminal portion 3–4 mm long, not twisted, mostly light tan; **palea** of fertile floret linear to narrowly triangular, 1.5–2.3 × 0.4–0.7 mm, membranous, pilose-ciliate. **Flower:** bisexual, protogynous; **perianth (lodicules)** 2, inversely conic and very compressed, truncate at top, transparent pale yellow, with 2 tufts of long hairs or ± a continuous fringe of hairs, the hairs to 0.6 mm long; **stamens** 3, free; filaments threadlike, ca. 2 mm long, colorless; anthers basifixed, dithecal, 2.5–3 mm long, yellow aging rose-orange or burnt orange, narrowly arrow-shaped at base, the connective slightly < sac length, longitudinally dehiscent opening from sac tip to midpoint; pollen yellowish; **pistil** 1, 3–3.5 mm long; ovary superior, compressed-ellipsoid, ± 1.5 mm long, green to pinkish, glabrous, 1-chambered with 1 ovule; styles 2, exerted near tips of glumes, ascending 1.5 mm then spreading ca. 1.6 mm; stigmas ca. 2 mm long, densely feathery (short-plumose) above midpoint, crimson. **Fruit:** achene (caryopsis), exposed, oblique spheroid compressed front-to-back, 3.9–4.3 × 4.1–4.5 × 2.7–3.1 mm, glossy to dull orangey or golden brown to midpoint fading to light tan approaching tip, flattened on upper face, with small concavity at base and below scar, the persistent style bases subterminal, with a darker line passing transversely through styles and forming a 30–40° angle with flat upper face, with persistent or tardily deciduous, spreading glumes at base.

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